

1 WHAT IS CLAIMED IS:

5

1. An office information system
comprising:

 a path record storage device which stores a
plurality of path records related to components of the
10 system, each path record indicating a locating path needed
to reach a location of a specific one of the components in
the system when a failure of the specific one of the
components occurs;

 a failure location detecting device which
15 detects a location of a component in the system when a
failure related to the component occurs;

 a reached location determining device which
reads a path record from the path record storage device
when the location of the failure is detected, and
20 determines a currently reached location in the system
based on the path indicated by the path record; and

 a message device which generates, when the
reached location is determined, an operational message
needed for recovering the failure at a subsequent location
25 of the path following the reached location.

1 2. The office information system according
to claim 1, wherein said message device provides a user
with the operational message by outputting a light-on
signal indicating a subsequent location of the path
5 following the reached location in the system.

10 3. The office information system according
to claim 1, wherein said message device provides a user
with the operational message by outputting a voice signal
indicating a subsequent location of the path following the
reached location in the system.

15

 4. The office information system according
20 to claim 1, wherein said message device includes:
 a plurality of optical-output indicators,
provided adjacent to the respective components of the
system, each of which lights up in response to a light-on
signal that indicates the subsequent location in the
25 system;

1 a voice synthesis unit which generates a
synthesized voice signal indicating the subsequent
location in the system, in synchronism with the light-on
signal; and

5 an operation control unit which allows the
voice synthesis unit to generate the synthesized voice
signal when a voice output mode is selected by a user.

10

5. The office information system according
to claim 4, wherein said operation control unit includes:

15 a voice input unit which converts an input
voice from the user into an electrical signal; and

 a voice recognition unit which recognizes
the electrical signal, produced by the voice input unit,
as being the selection of the voice output mode,

20 said operation control unit allowing the
voice synthesis unit to generate the synthesized voice
signal when the electrical signal is recognized by the
voice recognition unit as being the selection of the voice
output mode, so that the subsequent location indicated by
the voice signal is provided to the user.

25

1 6. The office information system according
to claim 5, further comprising:
a radio communication handset; and
a radio transmitter/receiver unit, coupled
5 to the message device, which communicates with the radio
communication handset by a radio signal,
wherein, when said transmitter/receiver
unit receives an input radio signal from the handset, the
input radio signal indicating the selection of the voice
10 output mode from the user, the operation control unit
allows the voice synthesis unit to generate the
synthesized voice signal, and when a synthesized voice is
output from the message device, said transmitter/receiver
unit transmits an output radio signal carrying the
15 synthesized voice to the handset.

20 7. The office information system according
to claim 6, wherein the radio communication handset is a
portable telephone.

1 8. The office information system according
to claim 1, further comprising a failure recovery message
device which provides a user with a failure recovery
message that indicates whether or not the recovery of the
5 failure in the system is completed.

10 9. A failure recovery message method for
an office information system, comprising the steps of:
storing a plurality of path records related
to components of the system into a path record storage
device, each path record indicating a locating path needed
15 to reach a location of a specific one of the components in
the system when a failure of the specific one of the
components occurs;

detecting a location of a component in the
system when a failure related to the component occurs;

20 reading a path record from the path record
storage device when the location of the failure is
detected;

determining a currently reached location in
the system based on the path indicated by the path record;
25 and

1 generating, when the reached location is
determined, an operational message needed for recovering
the failure at a subsequent location of the path following
the reached location.

5

10. The failure recovery message method
10 according to claim 9, further comprising the step of
providing a user with a failure recovery message that
indicates whether or not the recovery of the failure in
the system is completed.

15

11. An office information system
comprising:
20 a user identifying device which
authenticates a personal identification by receiving a
user ID;
a customizing device which generates a
customized operational message of the system appropriate
25 for a user whose identification is authenticated; and

1 an operational history storage device which
stores operational history records of a number of users,
each user having a different user ID, and each history
record indicating an operational characteristic of one of
5 the number of users,

 wherein the customizing device reads an
operational history record of the user, whose
identification is authenticated, from the operational
history storage device, detects the operational
10 characteristic of the user from the read history record,
and updates the customized operational message in
accordance with the detected operational characteristic.

15

12. The office information system
according to claim 11, wherein the operational history
storage device stores a total time of use of the system
20 with respect to each of the number of users, in addition
to the operational history records.

25

1 13. The office information system
according to claim 11, further comprising a voice output
device which produces a synthesized voice according to the
customized operational message output from the customizing
5 device.

10 14. An office information system
comprising:
a communication device linked to a remote
terminal via a network for telecommunications between the
system and the remote terminal;
15 an information processing device which
produces a reconstructed image when an image transmitted
by the remote terminal is received by the communication
device via the network;
an output-data processing device which
20 determines whether the reconstructed image output from the
information processing device is defective in image
quality; and
a message device which supplies, when the
reconstructed image is determined as being defective, an
25 error message, indicating that an error occurs in the

1 outputting of the image received at the system, to the
communication device, so that the error message is
transmitted to the remote terminal via the network.

5

15. An office information system
comprising:

10 a communication device linked to a remote
terminal via a network for telecommunications between the
system and the remote terminal;

 a printing device which produces a printed
image;

15 an image-quality evaluation device which
produces a result of evaluation of a quality of the
printed image every time the printed image is output by
the printing device; and

 a storage device, coupled to the
20 communication device, which stores the result of
evaluation output by the image-quality evaluation device,

 wherein a latest result of the evaluation
that is output by the image-quality evaluation device is
stored in the storage device, and said communication
25 device transmits an operational message, indicating the

1 stored latest result of the evaluation, to the remote
terminal via the network when an image-quality message
request from the remote terminal is received at the
communication device.

5

16. The office information system
10 according to claim 15, wherein the communication device is
linked to a digital network.

15

17. The office information system
according to claim 15, wherein the communication device is
linked to an analog telephone network, and said office
information system further comprises:

20 a voice recognition unit which recognizes a
voice signal, sent from the remote terminal via the
network, as the image-quality message request; and

a voice synthesis unit which produces a
synthesized voice signal indicating the latest result of
25 the evaluation output from the storage device.

1 18. An office information system
comprising:

 a communication device linked to a remote
terminal via a network for telecommunications between the
5 system and the remote terminal;

 a printing device which prints an image on
a copy sheet;

 a sheet-quality evaluation device which
produces a result of evaluation of a quality of the copy
10 sheet every time the printed image is output by the
printing device; and

 a storage device, coupled to the
communication device, which stores the result of
evaluation output by the sheet-quality evaluation device,

15 wherein a latest result of the evaluation
that is output by the sheet-quality evaluation device is
stored in the storage device, and said communication
device transmits an operational message, indicating the
stored latest result of the evaluation, to the remote
20 terminal via the network when a sheet-quality message
request from the remote terminal is received at the
communication device.

1 19. The office information system
according to claim 18, wherein the communication device is
linked to a digital network.

5

 20. The office information system
according to claim 18, wherein the communication device is
10 linked to an analog telephone network, and said office
information system further comprises:

 a voice recognition device which recognizes
a voice signal, sent from the remote terminal via the
network, as being the sheet-quality message request; and
15 a voice synthesis device which produces a
synthesized voice signal indicating the latest result of
the evaluation output from the storage device.

20

 21. An office information system
comprising:
 a sound input device which accepts an input
25 signal;

1 an acoustic signal detecting device which
detects an acoustic signal from the input signal accepted
by the sound input device;

 a first evaluation device which determines
5 whether the detected acoustic signal is a noise signal or
a speech signal;

 a speech dictionary which stores reference
feature patterns provided for a speech recognition;

 a machine noise dictionary which stores
10 reference noise patterns provided for a noise evaluation;

 a speech recognition device which
recognizes, when the detected acoustic signal is
determined as being the speech signal, the speech signal
as being an operational request based on the reference
15 feature patterns from the speech dictionary;

 a second evaluation device which determines
whether or not the noise signal is acceptable based on the
reference noise patterns from the machine noise
dictionary, when the detected acoustic signal is
20 determined as being the noise signal;

 a noise storage device which stores a
machine noise signal;

 a noise storage control device which allows
the machine noise signal to be stored into the noise
25 storage device, based on a result of the determination of

1 the noise signal by the second evaluation device; and
 a sound output device which reproduces the
noise signal from the noise storage device.

5

22. The office information system
according to claim 21, wherein the noise storage control
10 device allows a date and time of the determination of the
noise signal with respect to the machine noise signal to
be additionally stored into the noise storage device.

15

23. The office information system
according to claim 21, wherein the noise storage control
device allows a result of evaluation of the machine noise
20 signal to be additionally stored into the noise storage
device, the result of evaluation indicating the result of
the determination of the noise signal by the second
evaluation device.

25

1 24. The office information system
according to claim 21, wherein the noise storage control
device allows the machine noise signal to be stored into
the noise storage device, when the noise signal is
5 determined by the second evaluation device as being not
acceptable.

10
 25. The office information system
according to claim 21, wherein the first evaluation device
determines whether the detected acoustic signal is a noise
signal or a speech signal, by performing a speech
15 recognition process on the detected acoustic signal, and
when the detected acoustic signal is rejected as a result
of the speech recognition process, the first evaluation
device determines the acoustic signal as being the noise
signal.

20

 26. The office information system
25 according to claim 21, wherein, when the speech

1 recognition device recognizes the speech signal as being a
registering request, the noise storage control device
allows the machine noise signal to be stored into the
noise storage device, based on the result of the
5 determination of the noise signal by the second evaluation
device.

10

27. An office information system
comprising:

an image processing device which prints a
processed image, obtained from an original image, on a
15 copy sheet;

a self-diagnosis device which determines
whether the printed image on the copy sheet, output from
the image processing device, is defective in image
quality; and

20 a voice output device which outputs a
synthesized voice when the printed image is determined as
being defective, the synthesized voice indicating a result
of the determination by the self-diagnosis device.

25

1 28. The office information system
according to claim 27, wherein the self-diagnosis device
detects whether lack of toner or lack of copy sheets in
the image processing device has occurred.

5

 29. An office information system
10 comprising:
 a voice input device which accepts an input
voice from a user so as to generate an electrical signal
corresponding to the input voice;
 a voice recognition device which recognizes
15 the electrical signal, produced by the voice input device,
as being an operational command input to the office
information system; and
 a command execution device which executes
an image forming operation on the office information
20 system based on the operational command recognized by the
voice recognition device,
 wherein the voice recognition device is
configured to recognize the electrical signal as being an
operational command which sets an operating condition
25 change to the image forming operation, the operating

1 condition change being represented by a difference between
a previously-set operating condition and a currently-set
operating condition.

5

30. The office information system
according to claim 29, wherein the voice input device
10 includes a transmitter/receiver unit which receives an
input voice from the user so as to generate an electrical
signal corresponding to the input voice.

15

31. The office information system
according to claim 29, wherein the voice recognition
device is configured to recognize a plurality of voice
20 segments included in the input voice, as being respective
operating conditions of an operational command.

25

1 32. The office information system
according to claim 29, further comprising an operating-
condition input device which accepts a manually-indicated
magnitude on the operating-condition input device as an
5 operating condition change to the image forming operation.

10 33. An office information system
comprising:
an operational event detecting device which
determines whether an operational error occurs in the
system by detecting a plurality of predetermined
15 operational events in the system; and
a voice message device which outputs a
voice message based on a result of the detection of the
plurality of predetermined operational events, the voice
message being indicative of the occurrence of an
20 operational error in the system.

25 34. The office information system

1 according to claim 33, wherein the operational event
detecting device detects whether a user leaves from the
system, whether a new user attends at the system in place
of the user, and whether a document remains on the system
5 after the leaving of the user or the attendance of the new
user, and the voice message, output by the voice message
device when the document is detected as remaining on the
system, indicates that the document remains on the system
after the leaving of the user or the attendance of the new
10 user.

15 35. The office information system
according to claim 33, wherein the operational event
detecting device detects whether a user leaves from the
system, whether a new user attends at the system in place
of the user, and whether a copy sheet erroneously remains
20 on the system after the leaving of the user or the
attendance of the new user, and the voice message, output
by the voice message device when the copy sheet is
detected as erroneously remaining on the system, indicates
that the copy sheet erroneously remains on the system
25 after the leaving of the user or the attendance of the new

1 user.

5

36. The office information system
according to claim 33, wherein the operational event
detecting device detects whether a reconstructed image
output by the system from an original image is defective
10 in image quality, and the voice message, output by the
voice message device when the reconstructed image is
detected as being defective, indicates that the
reconstructed image is defective.

15

37. The office information system
according to claim 33, wherein the operational event
20 detecting device detects whether an image of a document
placed on the system is a front-side image or a back-side
image, and the voice message, output by the voice message
device when the image of the document is detected as being
the back-side image, indicates that the image of the
25 document is the back-side image.

1 38. The office information system
according to claim 33, wherein the operational event
detecting device detects whether a direction of an image
of a document placed on the system is equal to a direction
5 of an image to be used in a double-sided copying mode, and
the voice message, output by the voice message device when
the direction of the image of the document is detected as
being unequal to that used in the double-sided copying
mode, indicates that the direction of the image of the
10 document does not match with that used in the double-sided
copying mode.

15

 39. The office information system
according to claim 33, further comprising:
 a user ID recording medium in which an
identification ID of a user is stored;
20 a user ID storage device which stores the
user ID read from the user ID recording medium when the
recording medium is inserted into the system; and
 a previous user ID display device which
displays an image of the stored user ID output from the
25 user ID storage device when another user attends at the

1 system in place of the user and a different user ID
recording medium storing an identification of the new user
is inserted into the system.

5

10

15

20

25